



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,123	09/19/2005	David P Genter	20068.0006USWO	6762
52835 7590 04/01/2009 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902				
EXAMINER MCMAHON, MARGUERITE J				
ART UNIT 3741		PAPER NUMBER		
MAIL DATE 04/01/2009		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,123

Applicant(s)

GENTER, DAVID P

Examiner

Marguerite J. McMahon

Art Unit

3741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)
- Paper No(s)/Mail Date 7/28/06: 8/8/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-126 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 11 of claim 15 "a projection" is vague because the claim does not say how it is connected to the invention, i.e. it must be a projection of something, but the claim does not say of what.

In the last two lines of claim 20 "said compressing being by said forming" is unclear.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the split-line and the centerline being separated by approximately 90 degrees, and the shank having a pair of projections must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holtzberg et al (4,458,555) in view of Santi (5,243,878) Holtzberg et al show an apparatus for an engine comprising a shank 106 with two ends, fasteners 128, a first pair of abutting surfaces, a first bearing support surface and a pair of laterally facing surfaces, each of one of said surfaces being substantially perpendicular from a different one of said first pair of abutting surfaces, one end of the shank being attachable to the piston and the other end being mountable to a crankpin of the crankshaft along the first

bearing support surface, a cap 108 with a second pair of abutting surfaces, a second bearing support surface and a pair of projections, the width of the projections being equal to that of the cap, each one of said projections extending substantially normally from a different one of said second pair of abutting surfaces, said projections being adapted and configured to sliding receive therebetween said laterally facing surfaces, said cap being mountable to the crankpin along said second bearing support surface with said abutting surfaces disposed on opposite sides of the crankpin, wherein each one of said first abutting surfaces are in contact with a different one of said second abutting surfaces, Wherein said cap abutting surfaces and said shank abutting surfaces are substantially flat, wherein said shank defines a split-line and said shank further defines a centerline, wherein said split-line and said centerline are separated by approximately 90 degrees, wherein said cap abutting surfaces and said shank abutting surfaces are substantially parallel to the split-line, wherein said shank defines a split-line and said projection resist movement between said cap and said shank parallel to the split-line.

Holtzberg et al show everything except the projections compressing the laterally facing surfaces in an interference fit, and the split-line and centerline being supported by less than 90 degrees or approximately 60 degrees.

Santi teach that it is old in the art to employ a press fit or interference fit (these are synonyms) between a projection on the shank and a groove on the cap. It would have been obvious to one having ordinary skill in the art to modify Holtzberg et al by employing an interference fit between the projections on the cap and the lateral faces of

the shank, in order maintain proper tolerances during engine operation (see col1, lines 44-51).

Santi also teach that it is old in the art employ an angle of less than 90 degrees between the split-line and the centerline. It would have been obvious to one having ordinary skill in the art to modify Holtzberg et al by employing an angle of less than 90 degrees or an angle of 60 degrees, since these different angles are conventional in the art, as evidenced by Applicant claiming three different angles.

Claims 8-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi (6,027,784). Taguchi shows a shank with a pair of projections 4m' on the shank in the same context as that described above with respect to the Holtzberg et al reference. Taguchi shows everything except the projections compressing the laterally facing surfaces in an interference fit, and the split-line and centerline being supported by less than 90 degrees or approximately 60 degrees.

Santi teach that it is old in the art to employ a press fit or interference fit (these are synonyms) between a projection on the shank and a groove on the cap. It would have been obvious to one having ordinary skill in the art to modify Taguchi by employing an interference fit between the projections on the cap and the lateral faces of the shank, in order maintain proper tolerances during engine operation (see col1, lines 44-51).

Santi also teach that it is old in the art employ an angle of less than 90 degrees between the split-line and the centerline. It would have been obvious to one having ordinary skill in the art to modify Taguchi by employing an angle of less than 90 degrees

or an angle of 60 degrees, since these different angles are conventional in the art, as evidenced by Applicant claiming three different angles.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is 571-272-4848. The examiner can normally be reached on Monday- Friday, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on 571-272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marguerite McMahon

Application/Control Number: 10/521,123
Art Unit: 3741

Page 7

Primary Examiner
Art Unit 3741

/Marguerite McMahon/
Primary Examiner, Art Unit 3741